IN THE CLAIMS

1. (Currently Amended) An acoustic transducer ~~assembly~~ apparatus comprising:
a substrate having a topside and a backside;
a microfabricated acoustic transducer formed on the topside of the substrate; and
a damping material disposed on the backside of the substrate, the damping material having an acoustic impedance substantially equal to that of the substrate, thereby suppressing substrate acoustic modes, and a mixture ratio by weight of approximately 20 parts of tungsten powder to 1 part of epoxy.

2. (Previously Presented) An apparatus according to claim 1 wherein the damping material is disposed on the backside of the substrate to a thickness of approximately 1 millimeter (mm).

3 (Original) An apparatus according to claim 1 further including electronic circuits formed in the substrate.

4. (Previously Presented) An apparatus according to claim 3 wherein the electronic circuits are in between the transducer and the damping material.

5. (Currently Amended) An apparatus according to claim 1 wherein the substrate is silicon a ~~silicon wafer~~.

6. (Original) An apparatus according to claim 1 wherein the damping material suppresses a longitudinal ringing mode.

7. (Original) An apparatus according to claim 1 wherein the damping material suppresses a lamb wave ringing mode.

8. (Original) An apparatus according to claim 1 wherein the microfabricated acoustic transducer operates at frequencies above 20 kHz.

9-18. (Canceled).

19. (Previously Presented) A method for suppressing acoustic modes, the method comprising:
providing a substrate having a topside and a backside;
forming a microfabricated acoustic transducer on the topside of the substrate; and
placing a damping material on the backside of the substrate, the damping material having an acoustic impedance substantially equal to that of the substrate, thereby suppressing substrate acoustic modes, and a mixture ratio by weight of approximately 20 parts of tungsten powder to 1 part of epoxy.

20. (Previously Presented) The method of claim 19 wherein the damping material is placed on the backside of the substrate to a thickness of approximately 1 millimeter (mm).

21. (Previously Presented) The method of claim 19 further comprising forming electronic circuits in the substrate.

22. (Previously Presented) The method of claim 21 wherein the electronic circuits are in between the transducer and the damping material.

23. (Currently Amended) The method of claim 19 wherein the substrate is silicon ~~a silicon wafer~~.

24. (Original) The method of claim 19 wherein the damping material suppresses a longitudinal ringing mode.

25. (Original) The method of claim 19 wherein the damping material suppresses a lamb wave ringing mode.

26. (Original) The method of claim 19 further comprising operating the microfabricated acoustic transducer at frequencies above 20 kHz.

27-36. (Canceled).

37. (Previously Presented) The apparatus according to claim 1 wherein the tungsten powder

is spherical tungsten powder.

38. (Previously Presented) The apparatus according to claim 37 wherein the spherical tungsten powder is approximately 20 micrometer (μm) diameter spherical tungsten powder.

39. (Previously Presented) The method according to claim 19 wherein the tungsten powder is spherical tungsten powder

40. (Previously Presented) The method according to claim 39 wherein the spherical tungsten powder is approximately 20 micrometer (μm) diameter spherical tungsten powder.

41. (Currently Amended) An acoustic transducer ~~assembly~~ apparatus comprising:
a substrate having a topside and a backside;
a microfabricated acoustic transducer formed on the topside of the substrate; and
a damping material disposed on the backside of the substrate, the damping material having an acoustic impedance substantially equal to that of the substrate, thereby suppressing substrate acoustic modes, and a mixture ratio by weight of at least ~~10~~ 20 parts of tungsten powder to 1 part of epoxy.

42. (Currently Amended) The apparatus according to claim 41 wherein:
the substrate is a silicon wafer~~; and~~
~~the mixture ratio is at least 20 parts of tungsten powder to 1 part of epoxy~~.

43 (Previously Presented) The apparatus according to claim 42 wherein the tungsten powder is in a spherical form.

44. (Previously Presented) The apparatus according to claim 43 wherein the spherical tungsten powder has a per-sphere diameter of approximately 20 micrometer (μm).

45. (Previously Presented) The apparatus according to claim 41 wherein the damping material is disposed on the backside of the substrate to a depth greater than a thickness of the substrate.

46. (Previously Presented) The apparatus according to claim 51 wherein:
the substrate is a silicon wafer, the thickness of the substrate being equal to approximately 640 micrometer (μm); and
the depth of the damping material is approximately 1 millimeter (mm).

47. (Currently Amended) A method for suppressing acoustic modes, the method comprising:
providing a substrate having a topside and a backside;
forming a microfabricated acoustic transducer on the topside of the substrate; and
disposing a damping material on the backside of the substrate, the damping material having an acoustic impedance substantially equal to that of the substrate, thereby suppressing substrate acoustic modes, and a mixture ratio by weight of at least 20 ~~10~~ parts of tungsten powder to 1 part of epoxy.

48. (Currently Amended) The method according to claim 47 wherein:
the substrate is a silicon wafer~~; and~~
~~the mixture ratio is at least 20 parts of tungsten powder to 1 part of epoxy~~.

49 (Previously Presented) The method according to claim 48 wherein the tungsten powder is in a spherical form.

50. (Previously Presented) The method according to claim 49 wherein the spherical tungsten powder has a per-sphere diameter of approximately 20 micrometer (μm).

51. (Previously Presented) The method according to claim 47 wherein the damping material is disposed on the backside of the substrate to a depth greater than a thickness of the substrate.

52. (Previously Presented) The method according to claim 51 wherein:
the substrate is a silicon wafer, the thickness of the substrate being equal to

approximately 640 micrometer (μm); and

the depth of the damping material is approximately 1 millimeter (mm).